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Project Summary

EPA Workshop on Global Atmospheric Change and EPA Planning: Final Report

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The earth's climate is warming due to "greenhouse" gases, stratospheric ozone modifications caused by chlorofluorocarbons, and tropospheric ozone modifications caused by carbon monoxide and methane. Consensus among scientific researchers as to the causes, probable magnitudes, and timing of the changes has led to a call for assessment of policy options and impacts.

This workshop was organized to begin collaborations among EPA research and policy personnel, and climate researchers. EPA policy makers described their needs and working methods. Eight technical papers, presenting the state of the science, were given by non-EPA climate researchers. In addition to typical discussion and dialogue, a panel of policy makers and scientists discussed the impact of the projected global climate change on EPA planning. EPA responses to climate problems were suggested.

This Project Summary was developed by EPA's Atmospheric Sciences Research Laboratory, Research Triangle Park, NC, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).

Introduction

Expanding industrial and agricultural growth are leading to greater and greater emissions of many compounds that are changing the earth's atmosphere and climate. The changes are broadly classified as:

- warming of the climate caused by

increasing concentrations of "greenhouse" gases;

- modifications of stratospheric composition and ozone chemistry caused by the introduction of compounds, especially the chlorofluorocarbon gases, that contribute to ozone depletion; and
- modifications of tropospheric chemistry mainly caused by increasing levels of carbon monoxide and methane.

The emissions include carbon dioxide from fossil fuel combustion, carbon monoxide from automobile and combustion sources, methane from agricultural sources, nitrous oxide from fertilizers, and Freons from industrial processes.

The Global Atmospheric Change and EPA Planning workshop was designed to initiate active collaboration among EPA research and policy personnel and non-EPA climate researchers. The workshop served as a forum for scientific leaders in the climate research field to impress upon the decision makers the extent to which they understand the problems and believe that actions are needed. EPA decision makers had the opportunity to begin an on-going dialogue with climate researchers and to develop a better understanding of the relevance of this field to EPA control policies and methodologies.

Conclusions

A. Climate Modification Processes

There is reliable evidence that the climate of the earth is far from constant.